REMARKS/ARGUMENTS

In the specification, the paragraphs numbered **[0003], [0030], [0041], [0044], [0045]** have been amended to correct minor typographical errors.

Claims 1 – 20 remain in this application. Claims 19 and 20 have been amended.

In view of the above amendments and the following remarks, favorable reconsideration of the outstanding Office Action is respectfully requested.

1. Drawings

The Examiner has indicated that the informal drawings previously submitted have been objected to. Formal drawings are submitted with this Response for the Examiner's review and approval.

2. Allowed Claims/Subject Matter

Applicant gratefully acknowledges the Examiner's allowance of Claims 1-18.

3. § 112 Rejections

The Examiner has rejected claims 19 and 20 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

In particular, the Examiner considers Claims 19 and 20 vague because there is no antecedent basis for the limitation the optically encoded signal in the last line of these claims.

Claims 19 and 20 have been amended to clarify the claims and to provide proper antecedent basis.

4. § 102 Rejections

The Examiner has rejected claims 19 and 20 under 35 U.S.C. § 102(e) as being anticipated by Watanabe, U.S. Patent No. 6,853,774.

However, the Watanabe reference does not show a parametric actively mode-locked fiber ring laser including a phase-insensitive optical cavity containing a gain medium in the context of either a method or system operating on a plurality of wavelength division multiplexed signals consistent with the teachings of the present invention.

The present invention as described in paragraph 0034, is phase-insensitive in that no interferometric stabilization of the cavity is required, and no restrictions are placed on the phase noise or optical phase relation between the incoming plurality of wavelength division multiplexed signals and their corresponding clock signals. The present invention is operating in the phase-insensitive range, that is, the wavelengths of the input plurality of wavelength division multiplexed signals are distanced from the zero dispersion wavelength of the nonlinear fiber or gain medium as shown in FIG. 7. Far from the zero-dispersion wavelength, the parametric gain has a narrow bandwidth. The bandwidth may be controlled by properly designing the zero dispersion point and dispersion slope of the nonlinear fiber and by changing length of the nonlinear fiber. Thus, it is possible to generate a plurality of narrow wavelength bands, each of the plurality of narrow wavelength bands being immediately adjacent to a wavelength of a corresponding wavelength division multiplexed signal and each of the plurality of narrow wavelength bands including a corresponding recovered optical clock wavelength. In such a way, crosstalk due to four-wave mixing is suppressed, and the device can simultaneously operate for a plurality of wavelength division multiplexed optical signals.

On the other hand, Figure 11 and Figure 12 and columns 14 and 15 of the Watanabe reference show phase-sensitive designs. These designs are operating in the phase-sensitive range, that is, the wavelength of the single input optical data signal is very close to the zero dispersion wavelength of the nonlinear fiber. Near the zero-dispersion wavelength, the parametric gain has a wide bandwidth. Therefore, a narrow wavelength band would not be generated immediately adjacent to the input optical data signal. This is not an issue in the Watanabe reference, since the wavelength and frequency of the incoming signal are set to λ_s and f_s respectfully and only one clock signal is generated at λ_c and f_s. This designs in the Watanabe reference would not be able

to generate the plurality of narrow wavelength bands, each of the plurality of narrow wavelength bands being immediately adjacent to a wavelength of a corresponding wavelength division multiplexed signal and each of the plurality of narrow wavelength bands including a corresponding recovered optical clock wavelength, due to crosstalk caused by the overlap of the bandwidths among the multiple incoming signals and the multiple clock signals.

Also, although not referenced by the Examiner, in Figure 13 and Figure 14 and in columns 15 and 16 of the Watanabe reference, when wavelength division multiplexed signals are referenced, there is a need for an optical delay circuit to sequentially change the timing of each of the wavelength division multiplexed signals, so that the signal pulses do not coincide with each other in the time domain. Therefore, the Watanabe device would be phase-sensitive, due to the restrictions placed on the phase noise or optical phase relation between the incoming wavelength division multiplexed signals. In fact a second light source (e.g. a probe light), and an optical gate are used to convert the wavelengths of all channels into the wavelength of the probe light, providing WDM/OTDM conversion and not generating the aforementioned plurality of narrow wavelength bands.

Claim 19 and Claim 20 have been amended to emphasize the definition of phase-insensitive in the context of either a method or system operating on a plurality of wavelength division multiplexed signals consistent with the teachings of the present invention.

Based upon the above amendments, remarks, and papers of records, applicant believes the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Applicant believes that no extension of time is necessary to make this Reply timely. Should applicant be in error, applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply

timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to Deposit Account 03-3325.

Please direct any questions or comments to Ronald J. Paglierani at 607-974-3332.

OCTOBER 25, 2005
Date

Respectfully submitted,
CORNING INCORPORATED

Ronald J. Paglierani

Ronald J. Paglierani
Registration No. 29,201
Corning Incorporated
Patent Department
Mail Stop SP-TI-03-1
Corning, NY 14831

CERTIFICATE OF MAILING
UNDER 37 C.F.R. § 1.8a

I hereby certify that this paper and any papers referred to herein are being transmitted by First Class mil in an envelope addressed: Mail Stop: Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:
OCTOBER 25, 2005
Date

Ronald J. Paglierani 10/25/05
Ronald J. Paglierani Date

Amendment to the Drawings:

The attached sheets of drawings are formal replacement drawings.

Attachment: Replacement Sheets